



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,578	11/06/2001	Yair Oren	20568-68741	4183
46363 7590 07/05/2007 PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			EXAMINER WANG, QUAN ZHEN	
			ART UNIT 2613	PAPER NUMBER
			MAIL DATE 07/05/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

54

Office Action Summary	Application No.		Applicant(s)	
	09/913,578		OREN ET AL.	
	Examiner		Art Unit	
	Quan-Zhen Wang		2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 10, 2007 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 9-11 and 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 9 recites the limitation of "wherein the first information in said first upstream optical signal and the first information in said first downstream optical signal

Art Unit: 2613

are identical". However, the cited limitation is not supported by the specification as it is originally filed. Therefore, the cited limitation is considered as new matter.

Claim 25 recites the limitation of "wherein said control information included within upstream east-west signal is identical to said control information included within upstream west-east signal". However, the cited limitation is not supported by the specification as it is originally filed. Therefore, the cited limitation is considered as new matter.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1, 6, 9, 12-16, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milton et al. (U.S. Patent US 6,631,018 B1) in view of Admitted Prior Art (page 15, lines 15-18) (APA) and further in view of Sato (U.S. Patent US 5,491,686).

Regarding claims 1, 9, and 25, Milton teaches a node (fig. 1, for example 4; and fig. 3) for processing upstream optical signal and downstream optical signal in a fiber optic communication network (fig. 1), the node comprising: a first optical block (fig. 3, combination of elements connected to fiber 2) including a first device (fig. 3, the O/E converter 14 connected to the first channel from channel filter 19 connected to fiber 2) for converting a first optical signal at a first frequency carried by the network into a first

Art Unit: 2613

electrical signal, a second device (column 6, lines 6-9, demodulator) for demodulating from the first electrical signal first information modulated on the first optical signal; a third device (column 5, lines 65-67, maintenance channel modulator) for modulating on a second electrical signal second information, a fourth device (fig. 3, the E/O converter connected to the first channel into channel filter 18 connected to fiber 2) for converting the second information modulated on the second electrical signal into a second optical signal at the first frequency, a fifth device for providing a third optical signal at a second frequency (fig. 3, the E/O converter connected to the second channel into channel filter 18 connected to fiber 2), the third optical signal having third information (fig. 3, payload signal) modulated on it, a sixth device (fig. 3, MUX 11 connected to fiber 2) for multiplexing the second and third optical signals and placing the multiplexed second and third optical signals on the network as upstream optical signal (fig. 3, signal in fiber 2); a second optical block (fig. 3, combination of elements connected to fiber 3) including a first device (fig. 3, the O/E converter 14 connected to the first channel from channel filter 19 connected to fiber 3) for converting a first optical signal at a first frequency carried by the network into a first electrical signal, a second device (column 6, lines 6-9, demodulator) for demodulating from the first electrical signal first information modulated on the first optical signal; a third device (column 5, lines 65-67, maintenance channel modulator) for modulating on a second electrical signal second information, a fourth device (fig. 3, the E/O converter connected to the first channel into channel filter 18 connected to fiber 3) for converting the second information modulated on the second electrical signal into a second optical signal at the first frequency, a fifth device for

Art Unit: 2613

providing a third optical signal at a second frequency (fig. 3, the E/O converter connected to the second channel into channel filter 18 connected to fiber 3), the third optical signal having third information (fig. 3, payload signal) modulated on it, a sixth device (fig. 3, MUX 11 connected to fiber 3) for multiplexing the second and third optical signals and placing the multiplexed second and third optical signals on the network as upstream optical signal (fig. 3, signal in fiber 3); a control device (column 6, lines 6-9, maintenance processor; column 9, lines 31-34) for processing information included within the first information of each of the first and second optical block and providing within the second information of each said first and second optical block control information adapted for use by another node (column 9, lines 45-49). The system of Milton is capable of sending the first information in the first upstream optical signal and the first information in the first downstream optical signal are identical by modulating the fourth device in both first and second optical block with the same modulated electrical signal (see fig. 11). Milton differs from the claimed invention in that Milton does not specifically teach to combine channels of the first upstream optical signal with the channels of the first down stream optical signal to provide at least one valid copy of each channel in response to a fault that results in disruption of the control information. However, as it is admitted by Applicant, it is well known in the art to combine signals from different optical paths onto a common path "using his/her knowledge of SONET UPSR" (the instant specification, page 15, lines 13-18; and Remarks filed on May 23, 2006). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the signal combination method, as it is

Art Unit: 2613

admitted by Applicant, in the system of Milton in order to provide path protection. The modified system of Milton and APA does not specifically disclose that the control device selects optical signal path based on a relative quality of the optical signals. However, it is well known in the art to select signal path based on signal quality. For example, Sato discloses to select the signal path having better signal quality (column 5, lines 1-5). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to select optical signal path based on a relative quality of the optical signals, as it is taught by Sato, in the modified system of Milton and APA in order to provide high quality services.

Regarding claims 6, and 21-24, Milton further teaches that a fiber optic network (fig. 1) including a second node (fig. 1, for example, node 5, fig. 3), the second node including a first device (fig. 3, the O/E converter 14 connected to the first channel from channel filter 19 connected to fiber 2) for converting a first optical signal at a first frequency carried by the network into a first electrical signal, a second device (column 6, lines 6-9, demodulator) for demodulating from the first electrical signal first information modulated on the first optical signal; a third device (column 5, lines 65-67, maintenance channel modulator) for modulating on a second electrical signal second information, a fourth device (fig. 3, the E/O converter connected to the first channel into channel filter 18 connected to fiber 2) for converting the second information modulated on the second electrical signal into a second optical signal at the first frequency.

Regarding claim 12, Milton further teaches a network includes a closed loop optical fiber, one of the first-mentioned nodes and at least one of the other nodes coupled to the closed loop optical fiber (fig. 1).

Regarding claims 13, Milton further teaches a network includes two closed loop optical fibers for carrying the first optical signal in opposite directions, each node being coupled to both optical fibers (fig. 1).

Regarding claim 14, Milton further teaches that the two closed loop optical fiber also carry the third optical signal in the two opposite directions (figs. 1 and 3).

Regarding claims 15-16, Milton further teaches that the fiber optic network includes a closed loop optical fiber, one of the first-mentioned nodes and at least one of the other nodes coupled to the closed optical fiber (fig. 1).

6. Claims 2-5, 7-8, and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milton et al. (U.S. Patent US 6,631,018 B1) in view of Admitted Prior Art (page 15, lines 15-18) (APA) and Sato (U.S. Patent US 5,491,686) and further in view of Darcie (U.S. Patent US 4,701,904).

Regarding claims 2-5, 7-8, and 10-11, Milton further discloses to drop and add optical signals at more different wavelengths (figs. 3-4). The modified system of Milton, APA, and Sato differs from the claimed invention in that Milton, APA, and Sato do not specifically teach the specific optical-to-electrical conversion devices, signal demodulation device for optical receivers and signal modulation devices and electrical-to-optical conversion devices for optical transmitters. However, the specific configurations of optical receivers and transmitters are well known in the art. For

example, Darcie discloses exemplary optical receiver (fig. 6) and optical transmitter (fig. 3). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the optical receivers and transmitters disclosed by Darcie into the modified system of Milton, APA, and Sato in order to extract information from a dropping optical signal and provide information to an adding optical signal at a node in the network.

Response to Arguments

7. Applicant's arguments filed May 10 2007 have been fully considered but are moot in view of the new ground(s) of rejection.

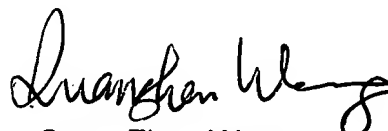
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw
7/1/2007


Quan-Zhen Wang